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June 5, 1989



R00105838
RCRA RECORDS CENTER

1. North Surface Impoundment is a RCRA regulated impoundment. This unit operated as an equalization basin receiving acidic and basic process wastewaters. This impoundment may be build over the former lagoon which received all process wastewaters. The North Surface Impoundment was clay lined.
2. South Surface Impoundment received process wastewaters containing process wastes and drum washing wastes. Monsanto has admitted this facility receive organic and halogenate organic wastes. Recent soil corings into the bottoms of the North and South Impoundments have confirmed the presence of solvent at depths ranging from 2 to 8 feet below the bottom of the lagoons. Monsanto conducted analyses of the influent and effluent for this impoundment and found the wastewater to contain organic and halogenate organic compounds (e.g. 1,1,1-trichloroethane, 1,1,2-trichloroethane, methylene chloride, tetrachloroethylene, trichloroethylene, and Freon). Substrate analysis also detected some of the above compounds. RCRA monitoring wells near these regulated surface impoundments have detected the organic and halogenated organic compounds found in these surface impoundments.
3. Polishing Lagoons The polishing lagoon system consists of three unlined lagoons. The lagoons received effluent from the facility's wastewater treatment system to 1985 at which time this treat effluent wastewater now enters the O'Fallon POTW. Sampling of the influent and effluent to these lagoons indicated the presence of volatile organics.
4. Sludge lagoons The sludge lagoons are bermed, lined with 2 inches of asphalt, and serve as holding basins for solids from the wastewater treatment plant. Sludge analysis provided to EPA do not analysis for the volatile organic compounds.
5. Former Waste Water Process lagoons which operated from 1959-1968. These lagoons were located in the area of the North and South Surface Impoundments.
6. Sand Filter allegedly only received domestic waste waters however groundwater monitoring wells in the area have demonstrated the presense of organic solvents.
7. Area No. 7 is a storage area used to store arsenic contaminated materials from cleanup of production areas.
8. Central Storage Area is a storage area use to store organic solvents among other things were nethylene chlroide, 1,1,1-Trichloroethane, trichloroethylene etc. A spill in 1985 of two gallons of 1,1,1-Trichloroethane occurred on March 28, 1985 involving a reported 2 gallons.

9. D Street Storage Area is used to store empty drums and to store waste oils and spent solvents.

10. Modification Building Storage Area this area is used to store spent solvents and waste oils from the 1960s to 1985. Spills of solvents in this area have been reported.

11. Waste Oil Staging Area is an area where waste oil storage has taken place since 1979.

12. Staging Area West of Crystal Pulling is used to store spent trichloroethane. This area has been used since 1983.

13. Solvent Storage Area Number 5 is shed used for the storage of waste solvents and alcohols.

14. Container Storage Area Number 6 was used for storage of waste trichloroethene, 1,1,1-trichloroethane, methylene chloride among other things.

15. Polishing Building Staging Area was used to store waste wax, waste solvents, (TCE, TCA, methylene chloride), Freon, and waste oil.

16. East drum washing station is located east of the RCRA surface impoundment. All types of drums were washed in this area including drums containing trichloroethylene, xylene, toluene, methylethyl ketone, acetone, and 1,1,1-trichloroethene among other items.

17. South drum washing station is located south of the South Surface Impoundment. As with the east drum area drums including organic and halogenated organics were washed at this location.

18. Former Above Ground Tank is a location in the 1970 where methylene chloride and possibly Freon were stored.

19. Treatment tanks The facility operated four 20,000 gallon fiber glass treatment tanks. The tanks were located in concrete pits. The tanks were used to treat wastewater containing chromium and hydrofluoric acid.

14. Process sewer spill areas The process sewer is located through the plant and discharges into the RCRA surface impoundments and the wastewater treatment plant. The process sewers have carried acid, basic and volatile organics.

15. Air stripper—The packed column air stripper receives influent from nine groundwater recovery wells located to the west and north of the plant. The recovery and treatment system treats

ground-water contaminated with volatile organic constituents. As of July 1, 1988, the air stripper had treated approximately 46.5 million gallons of recovered groundwater.

16. Spill areas at hazardous material handling areas are area where organic and halogenated organic solvents are removed from large drums to smaller drum. Spillage of these hazardous materials onto gravel may have release solvent onto the soil and ultimately into groundwater.

17. The marsh is located to the west of the facility. Contaminated groundwater may have entered the marsh as indicated by the presence of organic solvent.

18. A pond near the entrance to the facility offices was also found to be contaminated with organic solvent.

The above describes in some depth the SWMU's identified at this facility. Additional details can be found upon requesting the RCRA Facility Assessment.

There are 10 private wells to the north and north east of the facility. The name of the parties have been requested to be kept "confidential by Monsanto". To date none of the wells were found to contain organic solvent.

The pond and marsh are describe in the RFA on page ____ and shown on the map located

6/7/89

Vinyl chloride

Short term exposure to very high levels in air can cause dizziness and central nervous effects. Long term exposure may cause liver damage, adverse effects on the lungs and blood and increased risk of liver and brain cancer. Ingestion of 0.002 mg/l vinyl chloride in drinking water every day over a lifetime is estimated to result in one additional cancer cases in a population of 10,000. Health effects have not been associated with the very low levels of vinyl chloride measured in drinking water. EPA limits vinyl chloride in drinking water to 0.002 mg/l and limits factory emissions to 10 ppm.

~~trichlorotrifluoroethane~~

1,1,1-trichloroethane

1,1,1-Trichloroethane has been shown to damage the liver, the nervous system, and the circulatory system of laboratory animals and humans at high doses. EPA has set a drinking water standard for 1,1,1-trichloroethane at 200 parts per billion to protect against these effects with a margin of safety.

cis 1,2-dichloroethylene

Cis-1,2-dichloroethylene has been shown to damage the liver, nervous system, and circulatory system of laboratory animals such as rats and mice when exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. EPA has set the drinking water standard for cis-1,2-dichloroethylene at 0.07 ppm to protect against the risk of these adverse health effects.

Trichloroethene

Trichloroethene affects the central nervous system when breathed in air at high concentrations. Studies with animals have shown that ingestion may produce liver or kidney damage or cancer. Ingestion of 1 mg/L trichloroethene in drinking water every day over a lifetime is estimated to result in three additional cancer cases in a population of 10,000. The drinking water standard is 0.005 milligrams per liter.

methylene chloride (dichloromethane)

Methylene chloride has been shown to damage the liver of laboratory animals such as rats when exposed to high levels over their lifetime. Ingestion of 1 mg/L methylene chloride in drinking water every day over a lifetime is estimated to result in two additional cancer cases in a population of 10,000.

~~1,2-dichloroethylene~~